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UNDER THE DIRECTION OF

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ORIGINAL STUDIES AND REPORTS.

Micrococcus Pneumoniae Cronposa in a Case of Puerperal Insanity.

Mrs. A. B., enjoyed good health before this confinement. Labor was normal and nothing wrong was noticed the first week afterward. She then became excited and restless and later developed symptoms of incoherence and violence. She was kept at home, under restraint, two weeks, though she steadily grew worse and finally became destructive. When admitted here she was excited, completely incoherent and exhausted. Restless, but showed great motor weakness. Took food under protest; talked incessantly; tongue dry and brown; irregular fever; pulse weak, quick and

irritable; no tendency to bed-sores nor petechiæ. Death occurred from exhaustion seven days after admission; autopsy nine hours after death; nothing abnormal about body; uterus undergoing normal involution; no local septic condition discovered. On opening the skull the calvaria and dura presented nothing abnormal. The arachnoid and pia were deeply congested, swelled, œdematous and covered with plastic lymph. Fibrinous deposits most marked along the vertex, where they formed numerous vegetation-like papillæ. The amount of fluid was increased and turbid. The entire brain was wet. The inflammation was not purulent. On examination the micrococcus pneumoniae crouposæ was discovered in the fluid and blood-vessels. Special staining showed them in considerable numbers clinging to the interna. This micro-organism was isolated and cultivated. The cortex was grayish pink and this color extended to a greater depth than usual. Punctæ vasculosæ were abundant and capillary hemorrhages numerous. The white matter appeared dotted with vacuoles, but on examination it proved to be a transparent substance from the degenerated medullary sheath of the nerve fibres. Microscopical examination of the pia showed the vessels congested and the surrounding tissue infiltrated with leucocytes within the meshes of the pia, and following along the vessels was a deposit of fibrinous material. Very little increase of connective tissue. Blood-vessels of cortex were congested and tortuous. The entire brain tissue was also considerably infiltrated with leucocytes. The peri-vascular and peri-cellular spaces contained quantities of these wandering cells. The neuroglia cells were increased and their delicate processes embraced all the proper brain elements. The nerve cells, especially those of the motor area, showed great impairment of structure. Examined in the fresh state the amount of pigment was found largely increased, the yellow granules crowding, and partly embracing the nucleus. Stained by Nissl's method, the cell showed great irregularity of structure with the ordinary stains, the cell protoplasm took a very deep and opaque shade. Passing to the white matter, the nerve fibres appeared swelled and varicose. The medullary substance had, in places, changed to a colloid-like matter. Some fibres became moniliform, by the breaking and segmenting of the medullary sheath. In places these small masses fused together, forming larger colloid-like deposits. This colloid change was found throughout the white matter, but most abundantly in the internal capsule and motor tract. They varied in size from eight to thirty micro-millimetres. This change was found in the fresh tissue, but hardening in alcohol and Mueller's fluid seemed to increase it. While it appeared to be produced artificially, to an extent, still normal tissue, hardened under similar conditions, was free from it,

so it evidently required degeneration of the medullary substance for its production. Along these moniliform fibres there appeared to be a cell attached to each, bead-like mass. Delicate fibres formed a reticulum around these masses and, where they had run together, they formed round, pyriform or multilobular masses with the axis-cylinders pressed to one side. The adjacent fibres appeared atrophied and their myelin destroyed. Over these colloid masses was the same reticulum seen about the smaller ones, and beside them ran the axis-cylinders of several nerve fibres. The pia seems to have been the first point attacked by the disease which later spread to the cortex, and finally the white matter became affected. No collection of pus was found anywhere. The micrococcus was mostly confined to the blood-vessels, but was also in the brain substance where it might have come from manipulation. Some of the wandering leucocytes appeared to enclose the microorganisms, but within these cells it was impossible to distinguish the capsule around the micrococcus, which we, plainly seen in the other localities. F. O. JACKMAN, Mt. Pleasant.

**Subcutaneous
Transfusion of Sa-
line Solution in the
Treatment of Insan-
ity.**

In the medical literature of the past several years, occasional reference is made to the use of saline solutions by subcutaneous injection, met only as a substitute for the intravenous transfusion of blood or artificial blood serum as formerly employed, but also as a therapeutic agent of some value in sundry states of asthenia and collapse. The central idea in all instances has been the rapid regeneration of the blood by introduction into the circulation of a large amount of "artificial blood serum," although the quantity and composition of the fluid employed, as well as the results directly aimed at, vary somewhat. Thus, Dr. Ralph Brown ("Neurasthenia and Its Treatment by Hypodermic Transfusions," J. & A. Churchill, London, 1894) basing his views upon the work of Dr. Jules Chéron, at St. Lazare, regards the use of an artificial serum containing chloride, sulphate and phosphate of soda as a most valuable agent in the treatment of neurasthenia. Dr. R. M. Cunningham (*Virginia Medical Monthly*, Dec., 1893) has obtained excellent results in acute lobar pneumonia from injections of solution of sodium chloride, sixty grains to the pint, one pint being the amount usually given. Dr. Harold Williams successfully treated a case of collapse from cholera morbus by introducing beneath the skin a quart of solution containing fifteen grains sodium bicarbonate, and thirty grains sodium chloride (*Boston Medical and Surgical Journal*, Oct. 4, 1894). From the Maryland Hospital for the Insane ("Annual Report," 1893) came good reports of the use of saline solutions, egg albumin in the treat-